

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Triangle Suspension Systems Inc

Northwest Pennsylvania Industrial Resource Center

#### Triangle Suspension's Transformation Into a Lean Enterprise

##### Client Profile:

Triangle Suspension Systems, Inc., located in DuBois, Pennsylvania, is a manufacturer and distributor of multi-leaf and state-of-the-art parabolic springs. With approximately 230 employees, the company was founded in 1919 and originally located in the Golden Triangle of Pittsburgh, Pennsylvania. It relocated to DuBois in 1927.

##### Situation:

Triangle Suspension Systems began working on continuous improvement programs in 1995. Indicators that drove change included unsatisfactory lead time, unsatisfactory quality, waste, bottlenecks, on-time delivery problems, and a resultant decline in business. After considerable self-directed work in this area, in 2002 the company turned to Penn State University's DuBois Campus and its Lean Manufacturing program, which was delivered by Northwest Pennsylvania Industrial Resource Center (NWIRC), a NIST MEP network affiliate.

##### Solution:

Management at Triangle Suspension Systems decided to initially offer the full lean manufacturing series to 14 critical stakeholders within the organization. The programming commenced on February 3, 2003, and ended on March 24, 2003. Courses were offered in Introduction to Lean Manufacturing, Value Stream Mapping, 5S (Visual) Workplace Organization and Standardization, Set-Up Reduction, Cellular/Flow Manufacturing, Pull Systems/Kanban, and Total Productive Maintenance.

##### Results:

- \* Reduced number of accidents.
- \* Eliminated non-value activities.
- \* Integrated lean manufacturing concepts into company's 80/20 philosophy.
- \* Improved performance measures.
- \* Reduced cost per ton of finished steel product from \$1,400 to \$800.
- \* Reduced cycle time from 8.5 days to 5 days.
- \* Reduced man hours per spring from 0.5 hours to 0.45 hours.
- \* Reversed outsourcing of after-market business from Monterrey, Mexico, back to company.
- \* Created 40 new jobs.

##### Testimonial:

,